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ABSTRACT

This study examined the work-related stress experienced by principals and teachers in public schools. The researchers worked under the assumption that some of the stress related to a job situation comes from the environment. Condensed versions of two questionnaires developed by Williams (measuring stress experienced by teachers) and Jankovich (measuring stress experienced by principals) were mailed to a random sample of 300 teachers and 270 principals in the Alberta, Canada, province. The data were analyzed according to the problems posed by the study. Four observations made as a result of the findings may lead to a better understanding of occupational stress and research on stress in organizations: (1) the main stress factors identified were similar to those in previous studies, suggesting a stability of factor structures and the possibility that stress factors can be identified for work groups; (2) background variables did not contribute significantly to overall work stress--again, consistent with previous studies--suggesting that work-related stress is not related to background variables; (3) personal life stress, as in previous studies, failed to account for variance in overall work stress, suggesting work stress results from experiences on the job; and (4) a very significant difference occurs between teachers and principals in their stress experience. Teachers face frequent encounters with high stress, whereas principals infrequently encounter highly stressful situations. Nine tables and a reference list are included. (MD)

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Organizational Stress Experienced

by

Teachers and Principals

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Edmonton, Canada

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During the last decade work-related stress has become a topic of increasing interest in most professions. French and Caplan (1972, p.30) point to the importance of organizational life experiences in the development of stress among members. They state that an organization "exerts its own set of unique forces on the individual." They suggest that some of these forces, especially the continual pressures on the job, can affect both the mental and physical health of organization members.

There are also extra-organizational stimuli that can act as stressors on the job. Cherniss (1981, pp. 1-36) illustrates the dramatic changes in the environment in which professionals work. The social, political, economic trends as well as the technological advancements have all combined to increase stress. Cherniss claims that these trends are likely to continue or even accelerate in the years ahead. Educators are caught in this increasing pressure coming from within the organization and from the environment. The purpose of this study was to examine the work-related stress experienced by principals and teachers in public schools. The specific objectives were the following:

1. to identify the major sources of work-related stress experienced by teachers.
2. to identify the major sources of work-related stress experienced by principals.

3. to determine which stressors predict overall stress of both teachers and principals, and

4. to examine the relationship between the frequency and intensity of stressors for both teachers and principals.

Theoretical Framework

The study isolates from the larger area of stress as developed by Hans Selye (1974) that area of stress attributed to organizational life, in this case school life. Getzels, Lipham and Campbell (1968; p. 182) claim that all roles in society are subject to stress but few "seem so fraught with difficulty as roles in the educational setting." However, most of the research following this call dealt primarily with role conflict and role ambiguity. McGrath (1976; pp. 1351-1395) in his review of the literature related to stress has provided significant contributions for further explorations of work-related stress for educators. Many of the more recent studies (Schwab and Iwanicki, 1982; Westerhouse, 1979; Anderson, 1980; Crane, 1982; Williams, 1981; Kyriacou, 1980a) point to the numerous stressors experienced by public school teachers.

Stress experienced by principals appears to have received less attention than stress experienced by teachers. On the basis of his study, Fallon (1981, p. 28) claims that "no area of education imposes more stress than that of the public school principalship." However, Jankovic (1983) in a study of school principal stress did not find as high a level of stress as suggested by Fallon's statement.

Similarly, Farkas (1983), on the basis of a study of elementary and public school principals, concluded that his study "supports recent research [findings] of low stress in general for principals." Cooper (1981, p. 2) who studied sources of stress of executives concluded that "During normal times there are a large number of potential sources of managerial stress within organizations." These, according to Cooper, can become even more stressful during periods of economic downturn or political instability.

In spite of the numerous studies on stress, the nature and magnitude of work-related stress among teachers and principals is far from clear. Furthermore, the relationship between the intensity and frequency of stressors among professionals is largely unexplored.

The general stressors as they have been described using Selye's theory of stress are much better known. According to Berkhout (1970), many external conditions can be seen as affecting the brain, which in turn signals the nervous systems and the endocrine system resulting in stress. Among these are work overload, sensory overload, conflicting task demands, and physical disease. McGrath's (1976) interesting definition of stress is helpful in explaining how such stimuli can create a stressful situation. He states that "stress is defined as the anticipation of inability to respond adequately (or at reasonable cost) to preceived demand, accompanied by anticipation of negative consequences for inadequate response." (as quoted in Kelly, 1980, p. 251).

This study embraces the theory of French and Caplan (1972, p.30) who say that:

> The large bureaucratic organization ... exerts its own set of unique forces on the individual ... both mental and physical health may be affected by the continual pressures of the job over a period of years.

Cooper and Marshall (1976, pp. 14-22) indicate that it is possible to specify some categories of work-related stressors. They present five of these: factors intrinsic to the job, roles in the organization, career development, relationships at work, and organizational structure and climate.

Cox (1975, pp. 493) maintains that three views of stress have been advanced. According to the first view, stress is seen as "firmly rooted in the stimulus characteristic of the environment. Stress is what happens to a person, not what happens within him."

Another view of stress is that of Selye which, according to Cox, (1975, p. 493) seeks to understand stress by what happens within the person as evidenced by the response.

The third view, according to Cox (1975, p. 494), is a compromise between the previous two models. Stress, in this context, appears when there is an imbalance between a person's perceptions of the demand placed upon him/her and his/her anticipated abilities to cope with this demand. The individual is thus important in the stress syndrome, because the individual's perceived demands and perceived ability to cope, and the perceived consequences all determine the degree of stress experienced by an individual. (McGrath, 1976, p. 1352).

Acknowledging the complex nature of stress, the researchers adopted the model proposed by McGrath (1976, p. 1364). In this model, certain stimuli in the work environment may or may not lead to stress among teachers or principals depending on a number of other variables. Thus, the assumption made is that some of the stress related to a job situation comes from the environment. The objective of this study was to see if such stressors could be identified for teachers and principals.

Two dimensions were incorporated into the study. The first was that the stressors would be identified by the respondents as they occurred in real work experience situations of the educators. Kyriacou (1980, p.3) indicated that "measures based on self reports," in particular "simple single item survey type instruments used in questionnaires, [have] been the most successful."

The second dimension to the study was that both the intensity and frequency of stressful experiences were to be examined. This would permit a comparison between the two groups of educators, not only on stressors experienced by teachers and principals but also on the intensity and frequency of these stressors.

Methodology

The research reported here is based on two recent studies on organizational stress. Williams (1981) investigated the work-related stress of teachers and Jankovic (1983) studied the work-related stress of school principals. Both developed questionnaires through an extensive literature review, work-shops with teachers and principals and pilot testing of the resulting instruments.

The questionnaires which emerged from this process formed the basis for the data gathering instruments for this study. Both sought to assure the maximum validity and reliability of their instruments through several well-accepted procedures.

Instruments

Background information was obtained on teachers and principals regarding grade level, size of school, years of educational experience, years of administrative experience, sex, years of education and city or non-city location of schools.

Two general questions on stress were included. The first question was: "In general, how stressful do you find your work?" The second was: "During the past two years, have you experienced stressful situations in your personal life? Rate your personal life stress from low to high." Both questions had a six-point response scale as follows: not stressful, mildly stressful, moderately stressful, considerably stressful, very stressful, and extremely stressful.

The measurement of overall work-related stress and personal life stress using a single scale was based on the work of several researchers. Porter and Lawler (1968, p. 43) advocated this approach when they stated, "It was also decided that global ratings ... should be used. This decision was based partially upon Whitlock's (1965) impressive series of studies...." The authors further state that "it seems that global ratings can be reliable and valid measures...." They argued that the use of a global measure would yield a reasonable approximation of what would be obtained by some composite of ratings.

More specifically on stress measurement, Kyriacou (1980a, p.3) stated that occupational stress measures which have been used fall into three groups: 1) measures of basic chronic symptoms, 2) observational measures and 3) measures based on self-reports. Kyriacou (1980a, p.4) asserts that "this third group of measures, in particular, simple single item survey type instruments used in questionnaires, has been the most successful." The strength, according to Kyriacou, is that "The relationship between the measure and what it purports to measure is clear." Kyriacou and Sutcliffe (1977, 1978, 1979 a & b) have conducted four studies on teacher stress, and in each study they used the single item with a five point scale. Kyriacou (1980b, p.115) concludes:

> This measure of teacher stress (self-reported teacher stress) appears to have high face validity and on the basis of significant correlations with reported frequency of stress symptoms good concurrent reliability.

Jankovic (1981, p. 142) reported that in his study "all 50 potential sources of stress correlated positively and significantly with the self-report of principal stress." Consequently, on the basis of previous research findings, one item was used to assess the overall work-related stress experienced by teachers, and principals and one to assess personal life stress.

A condensed version of the Jankovic (1983) questionnaire was used to survey stressors experienced by school principals. Jankovic developed a questionnaire containing 43 items viewed as sources of stress by principals. In his study these fell into three clusters in a Varimax

factor analysis. For the present study only those items which loaded highest on each factor plus those additional items that were significant predictors of overall stress were used. This resulted in a questionnaire of 32 items.

A condensed version of the Williams (1981) questionnaire was used to assess the stress experienced by teachers. Williams developed a questionnaire containing 67 items. The items loaded using a Varimax solution on five factors. For the present study only those items which loaded highest on each factor plus those additional items which were significant contributors to overall stress were included. There were 36 items in the questionnaire.

Both questionnaires required the respondents to indicate how often each situation occurred and also how stressful it was. The six-point frequency scale ranged from never to very frequently. The six-point intensity scale ranged from not stressful to extremely stressful.

Sample

The population of the study comprised of all the 26,000 teachers in the province of Alberta, Canada, and all the principals in the same jurisdiction totalling 1,631. A random sample of 300 was selected from the teachers in the province. For the principals a random sample of 45 was selected from each of the six school classifications, for a total of 270 principals. The six types of schools were classified as follows: grades K-6, K-9, K-12, 7-9, 7-12, 10-12.

Survey

The survey was carried out by mailing questionnaires to the 300 teachers and 270 principals during the 1983-84 school year. Return stamped and addressed envelopes were provided. Follow-up letters were mailed two weeks after the questionnaire was mailed to everyone in the sample reminding the educators of the need to get a high rate of return for the study, and encouraging them to return completed questionnaires.

The returns were coded as they arrived so that an examination could be made of the non-respondent bias by comparing early returns with late returns.

Data Analysis

The data were analyzed according to the problems posed for the study. The major sources of stress for both teachers and principals were obtained first by the ranking of the stressors experienced by the respondents, and second, by a factor analysis of the responses using a Varimax factor solution.

The best predictors of overall stress were obtained by using regression analysis with overall satisfaction as dependent variable and the factor scores and personal life stress as independent variables. In addition the background variables were entered first in order to control for their contribution to overall satisfaction.

Finally, the mean scores on the intensity and frequency of the stressors were graphed to provide a visual interpretation of the correlation between the intensity and frequency of stressors for both groups of respondents.

Reliability and Validity

Reliability is concerned with the consistency of data produced by repeated applications. When writing about the reliability of questionnaires, Hill and Kerber (1967, p.64) stated:

> The reliability of the questionnaire depends upon the length of the instrument, the subject, the wording of items, the format, and how the instrument motivates the respondent. Pilot studies, trial runs, and precautionary methods of construction based upon factors affecting questionnaire reliability are courses of action available to the researcher who wishes to construct a reliable questionnaire.

The teacher questionnaire was appraised by teachers who participated in the pilot study, by selected experts and the researcher to ensure that items and instructions for completion were clear and unambiguous and that respondents' motivation would be positive.

With regard to validity, on the other hand, Hill and Kerber (1967, p.65) stated that "the validity of a data-gathering instrument depends upon how effectively the instrument measures what it purports to measure." One method used in this study to increase validity was to obtain directly from the teachers items that were identified as organizational sources of stress. Content validity or the representativeness of the content was assessed by the teachers who took part in the pilot study and by selected experts. With respect to internal consistency, Kerlinger (1973, p.468) claimed that "factor analysis is perhaps the most powerful method of construct validation." The results of the factor analysis performed on the 67 items in the Sources of Organizational Stress part of the questionnaire provide further evidence to the validity of the instrument.

The principal questionnaire was developed in a similar manner than the teacher questionnaire. Jankovic (1983, pp. 88-96 developed his questionnaire on the basis of semi-structured interviews in which principals identified major stressors in their work situations. He used a flexible and emergent design. He also used a previously developed questionnaire in a study in an Australian context. The 1981 instrument had a Cronback split-half reliability coefficient of 0.95. Several items were rejected and other items added after the interviews and a session with the Alberta principals.

The next phase saw two associate superintendents and four professors examine the items critically. The final version was a result of a thorough review by the dissertation committee. It was assumed after this procedure that content validity had been achieved. As far as reliability was concerned Jankovic (1983, pp. 94 & 95) reports a Guttman coefficient of 0.85 for the frequency scale of the sources of stress instrument, and 0.96 for the intensity scales of the instrument.

Assumptions and Limitations

One of the assumptions made for this study was that some of the stress related to a job situation comes from the environment of the work setting. Stress is viewed as a stimulus event, that is, something that occurs in the environment that may cause stress in an individual. Cooper (1981, p.3), in a study on executive stress, supports this assumption by indicaing that major stressors acting on managers at work come from the

environment. Some of those mentioned are lack of job security, lack of trust throughout the organization, pressure of too much work, and poor industrial climate.

Although the use of multiple methods could be advocated in social research, the efficacy of the self-reporting procedure must be recognized. Hence no interviews or follow-up procedures were used nor were coping mechanisms examined.

An important limitation of this study is that it focuses primarily on work-related stress, i.e., those stressors which are present in the work situation and which presumably can be altered when they appear to pose problems for organization members. The study does not purport to deal with personal stress directly or with coping with stress by individuals. However, having specified the important limitations, the study attempted to deal with all the identifiable stressors which teachers perceive to be present in their work situations.

Description of Samples

Table 1 presents the frequency and percentage frequency distribution of the teachers in the sample on each of the selected background variables, and personal life stress. Table 2 presents the similar data for the principals included in the sample. These variables were all used as statistical controls in the regression analysis designed to predict overall stress among teachers and principals.

The only test available to check on the degree to which the sample approximated the population from which it was drawn was on the sex variable. The percentage of female teachers in the sample was 57.1 compared to 58.7 percent in the total population. This suggests that the sample was representative of the total population from which it was drawn.

Table 1

Frequency and Percentage Frequency Distribution of Background Variables of Teacher Respondents

(N=234)

Characteristic	f*	%**
Sex		
Male	100	42.9
Female	133	57.1
Years of Teaching Experience		
1 - 2	23	9.8
3 - 5	43	18.3
6 - 10	55	23.4
11 - 15	45	19.3
16 - 20	27	11.6
21 or more	41	17.5
Years of Education		
One to three	16	7.2
Four	121	54.8
Five	54	24.4
Six or more	30	13.6
Major Grade Level		
Kindergarten	7	3.0
1 - 3	61	26.1
4 - 6	41	17.5
7 - 9	62	26.5
10 - 12	63	26.9
Number of Teachers in School		
10 or fewer	22	9.9
11 - 20	79	35.6
21 - 30	69	31.1
31 - 40	26	11.7
41 or more	26	11.7
Location of School		
City	120	51.3
Non-City	114	48.7
Personal Life Stress		
Not stressful	31	13.2
Mildly stressful	71	30.3
Moderately stressful	53	22.6
Considerably stressful	37	15.8
Very stressful	20	8.5
Extremely stressful	22	9.4

* Totals will not always add up to 234 because of the occasional no response
**The percentage total may deviate from 100 percent because of rounding to the nearest decimal place.

Table 2

Frequency and Percentage Frequency Distribution of Background Variables of Principal Respondents

(N=215)

Characteristic	f*	%**
Type of School (Grades)		
K-6	36	17.1
K-9	27	12.8
K-12	40	19.0
7-9	34	16.1
7-12	30	14.2
10-12	44	20.9
Size of School (Number of Teachers)		
1 - 10	34	16.0
11 - 15	46	21.7
16 - 20	30	14.2
21 - 25	23	10.8
26 - 30	29	13.7
31 - 40	19	9.0
41 or more	32	14.6
Location of Schools		
City	98	46.0
Non-city	115	54.0
Years as Educator		
1 - 10	16	7.5
11 - 15	38	17.9
16 - 20	52	24.4
21 - 25	49	23.0
26 - 30	26	12.2
31 or more	32	15.0

Table 2 (continued)

Characteristic	f*	%**
Years of Administrative Experience		
1 - 5	31	14.6
6 - 10	54	25.5
11 - 15	53	25.0
16 - 20	43	20.3
21 - 25	16	7.5
26 or more	15	7.1
Sex		
Male	197	92.5
Female	16	7.5
Years of Education		
Three	1	.5
Four	38	19.2
Five	65	32.8
Six	85	42.9
Seven or more	9	4.5
Personal Life Stress		
Not stressful	42	19.8
Mildly stressful	61	28.8
Moderately stressful	61	28.8
Considerably stressful	21	9.9
Very stressful	19	9.0
Extremely stressful	8	3.8

* Totals will not always add up to 215 because of the occasional no response.

**The percentage total may deviate from 100 per cent because of rounding to the nearest decimal place.

The return rate was 78 percent for teachers and 79 percent for principals. To check for non-response bias, correlation coefficients were obtained between overall stress of the respondents and the order in which the questionnaires were received. The questionnaires were numbered consecutively as they arrived providing an I.D. number for each respondent. The correlation could provide some indication whether or not the early returns revealed a different stress level than the later returns. The relationship between stress and the I.D. number on the questionnaire suggested that the non-response bias was small: for teachers r was equal to .04 and for principals it was -.10, both not statistically significant at the .05 level.

The relationship between Personal Life Stress and the respondents' I.D. numbers was quite similar. For teachers an r = .05, and for principals an r = .06 were obtained. Both results were not statistically significant. Both analyses supported the assumption that the non-respondent bias was minimal.

Overall Job Stress Experienced by Teachers and Principals

As indicated in Table 3, the mean Overall Stress score on a six-point scale ranging from 0 to 5, was 2.33 for teachers and 2.20 for principals. The difference in mean scores between the two groups was not statistically significant. There was also no significant difference in the stress level between male and female educators. The standard deviation of 1.13 for teachers and 1.00 for principals indicated the fairly wide range of scores on overall stress at work.

The mean scores on Personal Life Stress for teachers was 2.04 which was significantly higher than the mean score of 1.71 for principals. A greater proportion of teachers than principals perceived their personal life to be considerably to extremely stressful.

Table 3

Mean Overall Work Stress Scores by Teachers and Principals by Sex

	Male	Female	Total
Teachers	2.38 (N=100)	2.29 (N=133)	2.33 (N=234)
Principals	2.19 (N=199)	2.25 (N=16)	2.20 (N=215)
Total	2.25 (N=299)	2.29 (N=149)	

Major Sources of Job Related Stress for Teachers

The Varimax factor solution of the 35 stress variables for teachers, using the Statistical Package for the Social Sciences (SPSS), yielded six orthogonal factors as shown in Table 4. On the basis of the items with the highest loadings the factors were named Relationships with Students, Relationships with Staff, Work Load, Relationships with Superordinates, Role Overload and Resource Adequacy. They accounted for 58.3 percent of the variance in work-related stress.

The regression analysis in which the background variables, Personal Life Stress and the six factors serve as predictors of overall stress is provided in Table 5. The background variables failed to account for any significant amount of work-related stress.

Role Overload was the most significant predictor accounting for an additional 16 percent of the variance in stress. This was followed by Relationships with Superordinates (8%) Work Load (7%), Relationships with Students (3%), and Resource Adequacy (2%). Relationships with Colleagues and Personal Life Stress did not account for any significant variance in job stress.

Table 4

Varimax Factor Solution for 35 Organizational Stress Variables for Teachers (N= 234)

Teachers Perceived Organizational Stress Variables	Factors and Factor Loadings (÷ 100) 1	2	3	4	5	6	Communality (÷ 100)
Relationships with Students							
57. Unmotivated students	65	09	20	16	15	19	56
21. Helping students with personal problems	62	05	09	06	35	-01	52
23. Being required to make frequent role changes	59	17	31	-03	24	04	53
55. Disruptive students	55	03	16	39	13	24	56
61. Personality conflicts with students	55	31	12	32	13	29	61
27. Dealing with individual differences	49	07	40	03	38	06	55
59. Verbal abuse by students	46	37	-08	35	10	23	47
73. Lack of parental support	45	13	19	38	12	34	53
Relationships with Colleagues							
33. Lack of co-operation of other staff members	11	82	16	11	05	11	73
29. Experiencing poor relationships with colleague	02	78	14	16	08	11	67
31. Lack of communication among staff	06	75	11	14	06	11	62
35. Working with associates felt to be incompetent	18	67	10	22	-05	05	55
Work Load							
25. Lack of sufficient planning time during school day	18	06	74	09	20	20	67
45. Lack of time during the school day to get work done	16	11	72	12	23	23	68
47. Lack of "breaks" (e.g., coffee)	13	08	69	10	04	11	52
49. Lack of opportunity to interact with peers	09	17	56	-02	17	10	39
Relationships with Superordinates							
37. Disagreeing with a supervisor	16	45	23	71	01	02	78
39. Implementing policies when in disagreement with them	13	40	18	53	17	12	53
43. Receiving incompatible requests from two or more people	20	36	06	51	13	38	60
77. Staff evaluation procedures	12	11	09	45	30	15	35
Role Overload							
13. Diagnosing student needs	33	10	21	07	68	14	65
11. Student evaluation procedures	23	03	19	07	63	23	54
65. Parent-teacher interviews	10	-02	21	26	52	30	48
15. Program evaluation procedures	31	04	27	18	49	-09	45
17. Preparing material	21	00	42	-03	46	-12	45
Resource Adequacy							
53. Lack of staff facilities (e.g., in workroom, staffroom)	13	08	15	12	06	65	49
51. Lack of resources (e.g., books, supplies, equipment)	14	29	18	15	18	48	42
75. Over-sized classes	33	07	34	04	10	40	40
Other Variables							
19. Completing forms, surveys and other paper work	25	13	32	15	22	-09	26
41. Lack of communication between school and central office	19	36	30	28	-09	11	42
67. Lack of a feeling of job security	10	21	-01	34	08	38	33
69. Serving as a role model	35	02	13	11	30	14	27
71. Frequent interruptions during work	31	10	26	26	11	27	39
81. Emergencies (e.g., violence, injuries, accidents)	33	24	05	32	23	19	37
Eigenvalues	11.03	3.25	2.09	1.56	1.29	1.19	
Percentage of Total Variance	31.05	9.3	6.0	4.5	3.7	3.4	58.3
Percentage of Common Variance	60.1	16.1	9.1	6.1	4.5	4.0	100.0

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Table 5

Regression Analysis with Overall Job Stress of Teachers as Criterion and Background Variables, Personal Life Stress and Six Factors as Predictors

(N = 234)

Variable Entered	R	Increase in R	r
Background Variables	.055	[F=1.74, p=.11]	
Factor 5: Role Overload	.212**	.16	.40
Factor 4: Relationships with Superordinates	.289**	.08	.28
Factor 3: Work Load	.356**	.07	.36
Factor 1: Relationships with Students	.388**	.03	.28
Factor 6: Resource Adequacy	.406*	.02	.18

* Significant at the .05 level

** Significant at the .01 level

Note: Factor 2 (Relationships with Colleagues) and Variable 9 (Personal Life Stress) failed to contribute significantly to Overall Stress in the regression analysis.

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Major Sources of Work-Related Stress of Principals

The Varimax factor solution of the 32 stress variables for principals, using the Statistical Package for the Social Sciences (SPSS), yielded five orthogonal factors as shown in Table 6. By a process of inspection, names were derived for the factors based on the items with the highest loadings in each cluster of variables. The five factors Dealing with Staff Problems, Maintaining Staff Support, Work Load, Central Office Support, and Dealing with Student Problems accounted for 59 percent of the variance in overall work-stress.

The regression analysis with Overall Stress as criterion and the selected background variables Personal Life Stress, and five factors as predictors is summarized in Table 7. The background variables, size of school, years as educator, years of administrative experience, sex, years of education, location of school, were entered first, after which personal life stress and the five factors were entered according to their contribution to variance in Overall Stress.

Table 6

Varimax Factor Solution for 32 Stress Variables for Principals Using 5 Factors (N=213)

Stress Item	Factors and Factor Loadings (÷100) 1 Dealing with Staff Problems	2 Maintaining Staff Support	3 Work Load	4 Central Office Support	5 Dealing with Student Problems	Communality (÷100)
22 Recommending the dismissal of a tenured teacher	83	21	13	11	09	77
23 " " transfer of a teacher	74	15	16	21	03	63
19 " " non-renewal of a temp.contract	70	04	10	16	29	62
20 Having to tolerate a teacher whose attitudes are considered unprofessional	64	16	11	14	17	49
18 Presenting a teacher with a formal report on his/her unsatisfactory performance	62	21	-03	13	31	54
16 Dealing with a teacher considered deficient in teaching skills	60	32	11	16	33	61
27 Resolving interpersonal conflicts among staff	59	43	18	06	18	59
24 Reprimanding a teacher	58	20	31	14	06	49
25 Resolving parent-teacher conflicts and misunderstanding	50	35	32	11	24	55
10 Developing school policy that all staff accept and actively support	21	71	20	10	17	63
14 Maintaining rapport and cooperaton with all staff	24	71	09	04	14	59
12 Resolving the expectations of staff for the principal	20	65	23	19	22	60
13 Establishing consensus among staff about budget issues	25	61	27	02	08	51
17 Peforming the role of principal with limited cocognition and positive feedback from staff, parents, C.O. & board	09	51	15	38	16	46
11 Promoting a positive school image in the community	24	46	28	20	08	39
30 Being caught as the person in the middle between teacher and C.O. administrators	22	43	31	41	-08	50
26 Being too rushed to complete tasks satisfactorily	34	26	63	04	14	61
9 Performing duties with interruptions	20	28	63	07	30	62
32 Contending with time pressures to complete the budget	07	18	62	16	-01	44
29 Projecting staffing needs	13	23	54	16	01	39
3 Having insufficient time to stop work and relax for lunch	-04	20	47	14	41	45
1 Completing reports, questionnaires, forms,etc.	08	00	46	-02	29	29
28 Experiencing interpersonal conflict with the Associate Superintendent	32	04	12	83	18	84
21 Experiencing an inadequate level of advice and support from the Associate Superintendent	10	15	10	76	03	63
7 Having unclear guidelines as to legal rights and authority as principal	21	22	16	46	21	36
2 Informing parents of their child's unsatisfactory behavior	24	08	22	19	63	54
5 Suspending a student from school	34	25	11	10	62	59
4 Having to make final decision that a student repeat a year	25	19	10	00	53	39
6 Dealing with student vandalism	27	12	12	26	34	29
8 Resolving the time demands	04	37	37	10	24	37
15 Being criticized by parents	39	36	20	30	32	51
31 Having to deal with emergencies	30	10	36	29	11	33
Eigenvalues	11.65	2.37	1.76	1.66	1.46	—
Percentage of total variance	36.4	7.4	5.5	5.2	4.5	59
Percentage of common variance	67.3	11.5	8.3	7.0	5.8	100

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Table 7

Regression Analysis with Overall Job Stress Principals as Criterion and Background Variables, Personal Life Stress and Five Factors as Predictors

(N=215)

Variable Entered	R^2	Increase in R^2	r
Background Variables	.046		F=1.40, p=.22
Factor 3: Work Load	.212	.17	.43
Factor 1: Dealing with Staff Problems	.235	.02	.09
Factor 2: Maintaining Staff Support	.264	.03	.29
Factor 4: Central Office Support	.303	.04	-.06
Factor 5: Dealing with Student Problems	.336	.03	.24

* Significant at the .05 level

** Significant at the .01 level

Note: Variable 9 (Personal Life Stress) failed to contribute significantly to Overall Job Stress in the regression analysis.

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The selected background variables, individually and collectively, did not contribute significantly to variance in Overall Stress. On the other hand, all five factors were significant predictors of overall work-related stress. Work Load accounted for 17 percent of the variance, followed by Dealing with Staff Problems (2%), Maintaining Staff Support (3%), and Dealing with Student Problems (%). Personal Life Stress failed to account for any significant variance in overall job-related stress.

Relationship Between Frequency and Intensity of Stress

The mean scores for each item both on Frequency of occurrence and intensity of stress were calculated for teachers and principals. The purpose of this analysis was to test the hypothesis derived from two previous studies, namely, that the relationship between the frequency and intensity of stress experiences varies significantly between teachers and principals.

The findings of the previous two studies by Williams (1981) and Jankovic (1983) revealed a significant difference between the teachers and principals on the correlation of the frequency and recency of stress items. The correlation indicated that the more intense stressors of principals tended to occur frequently. Teachers perceived a significant positive correlation between the intensity and frequency of stress ($r=.72$) while principals perceived a significant negative correlation between the frequency and intensity of their stress experiences ($r=-.67$).

Table 8 summarizes the Pearson correlation coefficients between the frequency and intensity of stress for teachers and principals first for the studies by Williams(1981) and Jankovic (1983),and second,for the present study.

Table 8

Correlation Coefficients Between Frequency and Intensity of Stress for Teachers and Principals*

	Previous Studies	Current Study
Assumption	Regular Analysis	Regular Analysis
Teachers	.72	.46
Principals	-.68	-.12

*p< .001 for all differences of means between teachers and principals.

The findings indicate that teachers tended to experience a positive correlation between frequency and intensity of stress; principals, on the other hand, tended to experience a negative correlation between frequency and intensity of stress. The difference between the correlations between teachers and principals was statistically significant beyond the .001 level for both analyses.

The proposition advanced for this section of the study, even though strongly supported by the findings, is obviously in need of further study and examination. With that caution, it seems that this study supports the statement that for teachers the more intense stressors tend to occur frequently, while for principals the more intense stressors tend to occur infrequently.

OBSERVATIONS AND CONCLUSIONS

The following observations are subject to several limitations that should caution the reader in search of definite answers regarding stress among educators. First of all, less than half of the variance in overall stress was accounted for by all the variables (41% for teachers and 34% for principals). Second, the research design, especially the way questions were asked about stressors may have influenced the responses of teachers and principals. Third, the variation with which individuals handle stress makes it very difficult to generalize about educators as a group. However, acknowledging these, and other, important limitations as a background, the researchers are still of the opinion that the findings may provide some insights into stress among educators.

Four of the observations made on the basis of the findings my lead to a better understanding of occupational stress as well as of research on stress in organizations. The four deal with the identification of major job stress factors, the relevant background variables have for job stress, the degree to which personal life stress is related to job stress, and the variation in the frequency-intensity relationship between teachers and principals. These four areas, which capture some of the significance of this study, and may prove helpful in further research, are examined briefly below.

Main Stress Factors

The job stress factors that were identified in this study were very similar to those identified in the previous studies by Williams (1981) and Jankovic (1983). This suggests a stability of factor structures, and the possibility that stress factors can be identified for work groups. These factors also contributed significantly to the overall stress experienced by the respondents. Table 9 summarizes the factors for teachers and administrators in order of their contribution to overall stress.

Table 9

Factors Contributing Most to Overall Work-Stress

For Teachers	For Principals
Role Overload	Work Load
Relationships with Superordinates	Dealing with Staff Problems
Work Load	Maintaining Staff Support
Relationships with Students	Central Office Support
Resource Adequacy	Dealing with Student Problems

Background Variables and Occupational Stress

For both teachers and principals the background variables did not contribute significantly to overall work stress. Again this is consistent with the previous study by Williams (1981). Thus, there is a suggestion that work-related stress is not substantially related to such background variables as sex, experience, level of education, type of school, size of school and location of school.

Personal Life Stress and Job Stress

As was the case in the previous study by Williams (1981) personal life stress failed to account significantly for any variance in overall work stress for both teachers and school principals. Contrary to the claim made in most models on stress, this finding suggests that work stress results from events or experiences on the job and not from stress brought to the job by the worker.

The Frequency and Intensity of Stress Experiences

A very significant difference occurred between teachers and principals in their stress experiences. For teachers the more stressful the experiences the more frequently they occurred. For principals this was reversed, that is, the more stressful the experiences the less frequent were their occurrences. This points to a dramatic difference in job situations. A teacher is faced with the frequent encounter with highly stressful situations while a principal is faced with the infrequent encounter with highly stressful situations.

Numerous stressors are perceived to be present in the work place of public school teachers. These stressors impact differently on different individuals, consequently what is stressful for one may not be stressful for another. Some of the more general stress factors can be identified, the foremost being Role Overload. These stressors seem to operate in the work place indepdendent of the background and situational variables, and independent of the personal life stress experienced by teachers. The more stressful situations tend to occur more frequently in the work life of the teachers than the less stressful ones.

Similarly, numerous stressors are perceived to be present in the work place of the public school principals. Some of the more general stress factors can be identified, the foremost being Work Load. As was the case with the teachers, these stressors appear to be unrelated to background and situational variables and personal life stress. However, unlike the case with teachers, the more stressful the situations are, the more likely it is that they will occur infrequently in the work life of the principals.

It appears that the stressors identified for teachers and principals are those that may be at least partly under the control of the people who work in schools. As such their identification could lead toward measures which would reduce their negative impact on individuals who work in schools, and thus lead to an improvement in the quality of the work life of teachers and principals.

Cherniss (1980, p. 187) claims that "Job stress and burnout have become the most popular concerns in the human services today." This concern has been revealed and discussed in articles, workshops and research. No one knows whether the topic will continue to attract the widespread interest that it has until now, but most agree that occupational stress will continue and possibly accelerate in the years ahead and conceivably lead to disturbing consequences. The quality of the work setting appears to be directly affected by the degree of stress generated in a work place.

Since the nature of the work setting varies greatly from place to place, researchers have assumed that the study of the human services, with their unique properties and distinctive problems, must be carried out separately from the study of stress in general. The findings in this study point to a need to be even more job specific in the analysis of occupational stress. This specificity is suggested both for the field under study and the instrument used for the study. In the research reported in this paper the study of educators with an instrument designed by and for them seemed to be productive in generating meaningful data on stress in the educational field.

Future research endeavors could deal with the historical description of stress among educators, coping processes unique to the situations, and organizational responses to stress in the work environment of organizational members. Given information on the stressors, the

historical background of stress in education, the coping processes and organizational responses, administrators might be able to develop intervention strategies leading to stress reduction, coping behaviors, and the general improvement in the quality of the educational work life.

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